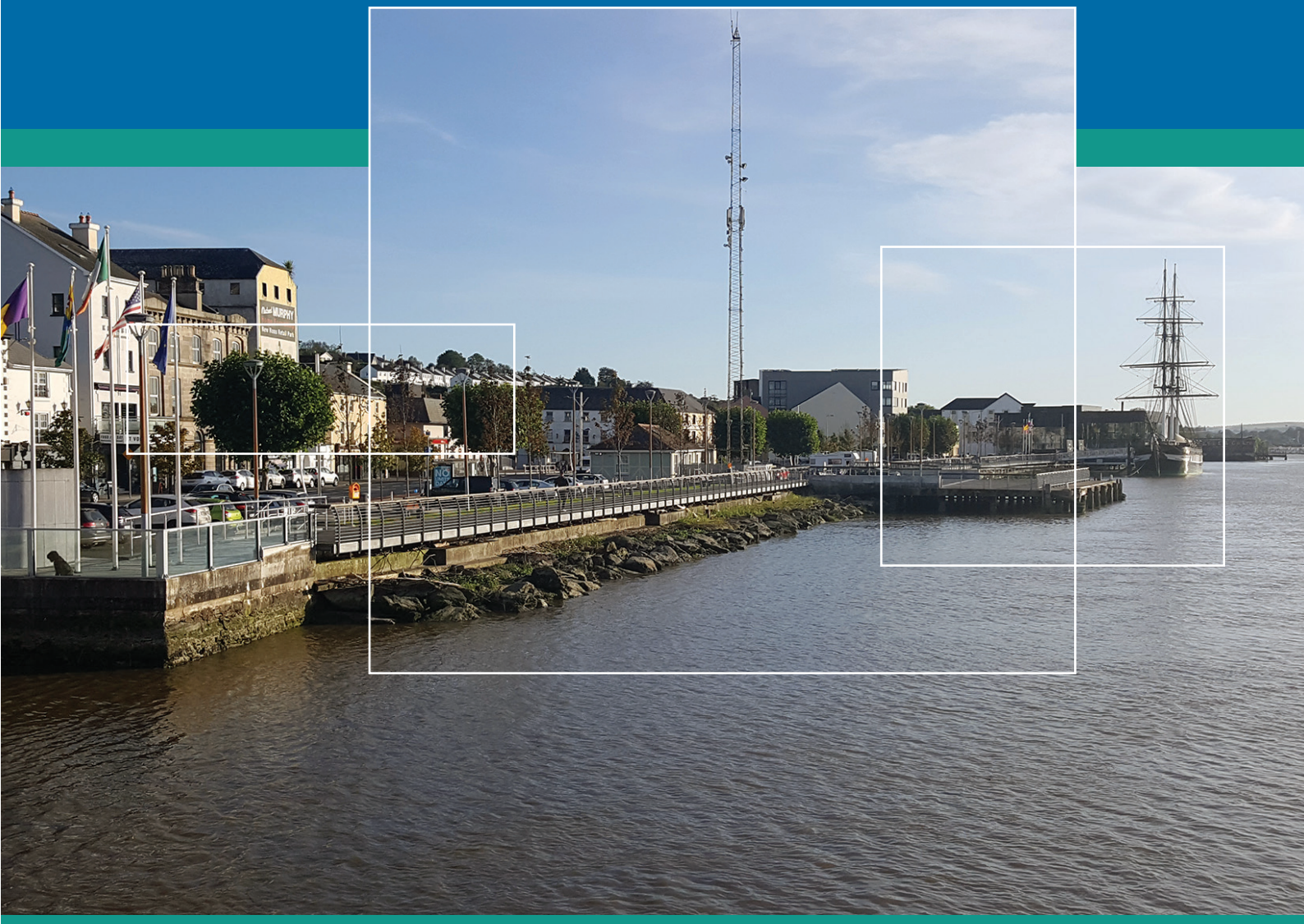
Urban Waste Water Treatment in 2018



Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

The work of the EPA can be divided into three main areas:

Regulation: *We implement effective regulation and environmental compliance systems to deliver good environmental outcomes and target those who don't comply.*

Knowledge: *We provide high quality, targeted and timely environmental data, information and assessment to inform decision making at all levels.*

Advocacy: *We work with others to advocate for a clean, productive and well protected environment and for sustainable environmental behaviour.*

Our Responsibilities

Licensing

We regulate the following activities so that they do not endanger human health or harm the environment:

- waste facilities *(e.g. landfills, incinerators, waste transfer stations)*;
- large scale industrial activities (*e.g. pharmaceutical, cement manufacturing, power plants)*;
- intensive agriculture *(e.g. pigs, poultry)*;
- the contained use and controlled release of Genetically Modified Organisms *(GMOs)*;
- sources of ionising radiation *(e.g. x-ray and radiotherapy equipment, industrial sources)*;
- large petrol storage facilities;
- waste water discharges;
- dumping at sea activities.

National Environmental Enforcement

- Conducting an annual programme of audits and inspections of EPA licensed facilities.
- Overseeing local authorities' environmental protection responsibilities.
- Supervising the supply of drinking water by public water suppliers.
- Working with local authorities and other agencies to tackle environmental crime by co-ordinating a national enforcement network, targeting offenders and overseeing remediation.
- Enforcing Regulations such as Waste Electrical and Electronic Equipment (WEEE), Restriction of Hazardous Substances (RoHS) and substances that deplete the ozone layer.
- Prosecuting those who flout environmental law and damage the environment.

Water Management

- Monitoring and reporting on the quality of rivers, lakes, transitional and coastal waters of Ireland and groundwaters; measuring water levels and river flows.
- National coordination and oversight of the Water Framework Directive.
- Monitoring and reporting on Bathing Water Quality.

Monitoring, Analysing and Reporting on the Environment

- Monitoring air quality and implementing the EU Clean Air for Europe (CAFÉ) Directive.
- Independent reporting to inform decision making by national and local government *(e.g. periodic reporting on the State of Ireland's Environment and Indicator Reports)*.

Regulating Ireland's Greenhouse Gas Emissions

- Preparing Ireland's greenhouse gas inventories and projections.
- Implementing the Emissions Trading Directive, for over 100 of the largest producers of carbon dioxide in Ireland.

Environmental Research and Development

- Funding environmental research to identify pressures, inform policy and provide solutions in the areas of climate, water and sustainability.

Strategic Environmental Assessment

- Assessing the impact of proposed plans and programmes on the Irish environment *(e.g. major development plans)*.

Radiological Protection

- Monitoring radiation levels, assessing exposure of people in Ireland to ionising radiation.
- Assisting in developing national plans for emergencies arising from nuclear accidents.
- Monitoring developments abroad relating to nuclear installations and radiological safety.
- Providing, or overseeing the provision of, specialist radiation protection services.

Guidance, Accessible Information and Education

- Providing advice and guidance to industry and the public on environmental and radiological protection topics.
- Providing timely and easily accessible environmental information to encourage public participation in environmental decision-making *(e.g. My Local Environment, Radon Maps)*.
- Advising Government on matters relating to radiological safety and emergency response.
- Developing a National Hazardous Waste Management Plan to prevent and manage hazardous waste.

Awareness Raising and Behavioural Change

- Generating greater environmental awareness and influencing positive behavioural change by supporting businesses, communities and householders to become more resource efficient.
- Promoting radon testing in homes and workplaces and encouraging remediation where necessary.

Management and structure of the EPA

The EPA is managed by a full time Board, consisting of a Director General and five Directors. The work is carried out across five Offices:

- Office of Environmental Sustainability
- Office of Environmental Enforcement
- Office of Evidence and Assessment
- Office of Radiation Protection and Environmental Monitoring
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet regularly to discuss issues of concern and provide advice to the Board.

Urban Waste Water Treatment in 2018

Environmental Protection Agency

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Contents

List of figures

List of tables

Summary for 2018

Quality of treatment

- The number of priority areas where treatment needs to improve dropped from 132 to 120 in the past year.
- Improvements are needed at these 120 areas to elimate raw sewage, prevent water pollution, protect freshwater pearl mussels, bathing waters and shellfish waters and meet EU standards.
- Treatment at 21 of the 169 large urban areas in Ireland failed to meet EU standards. These 21 areas produce over half of Ireland's urban waste water.
- Sewage from the equivalent of 77,000 people in 36 towns and villages is released into the environment every day without treatment.

Risks to the environment

- Waste water continues to be one of the main threats to the quality of our rivers, lakes and estuaries.
- Treatment at 15 areas must improve to protect critically endangered freshwater pearl mussels or to safeguard shellfish habitats.
- Waste water contributed to poor quality bathing water at three beaches in 2018.
- Irish Water is taking too long to complete some of the improvements necessary to protect the environment. Delays mean 13 areas will continue releasing raw sewage after 2021.

Action required from Irish Water

- Target resources to resolve environmental issues at the 120 priority areas.
- Increase the pace of upgrades of deficient waste water treatment systems to prevent pollution, protect public health and avoid financial penalties.
- Continue improving how treatment systems are run to get the best performance from them.
- Continue assessing the condition and performance of public sewers and pump stations to inform the need for investment and upgrades.

1 Introduction

This report by the Environmental Protection Agency is about urban waste water treatment in Ireland during 2018. It is based on our assessment of information reported to us by Irish Water and on the findings of our enforcement activities. The report focuses on the key issues that Ireland needs to address to protect the environment from the harmful effects of waste water discharges.

Why must we treat waste water?

The objective of waste water treatment is to collect the waste water generated within communities, remove polluting material, and then release the treated water safely back into the environment. Without such treatment, the waste water we produce would pollute our waters and create a health risk.

Who does what?

- Irish Water is the national water utility, responsible for the collection, treatment and discharge of urban waste water.
- The Environmental Protection Agency (EPA) is the environmental regulator of Irish Water. The EPA issues and enforces waste water discharge authorisations.
- The Commission for Regulation of Utilities is the economic regulator. It ensures that Irish Water spends its money efficiently and effectively to improve services.

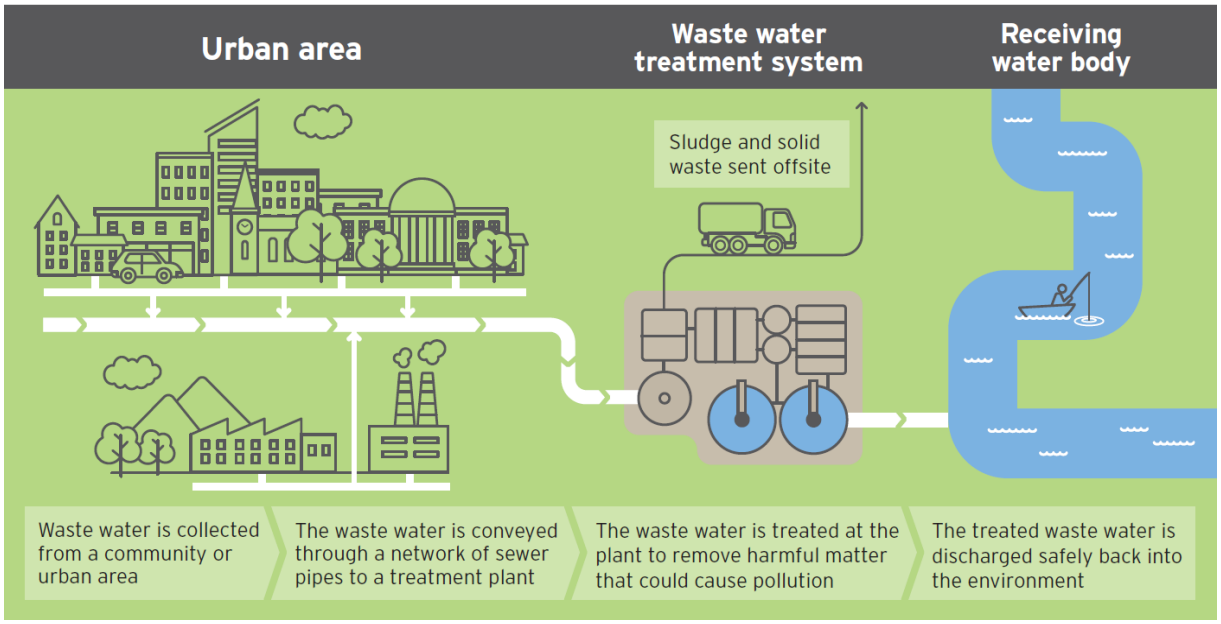

Figure 1: What happens to waste water from urban areas?

What are the environmental priorities for waste water?

There are deficiencies in many treatment plants and public sewers due to a legacy of underinvestment. Consequently, waste water from many areas is released into the environment without adequate treatment. It will take substantial investment over a number of years to bring treatment at all these areas up to the required standards. It is not possible to fix all the problems in the short term and therefore the resources that are available must target the right areas to bring improvements where they are most urgently needed. Figure 2 shows what the EPA identifies as the most important issues to resolve to protect the environment and public health from waste water discharges.

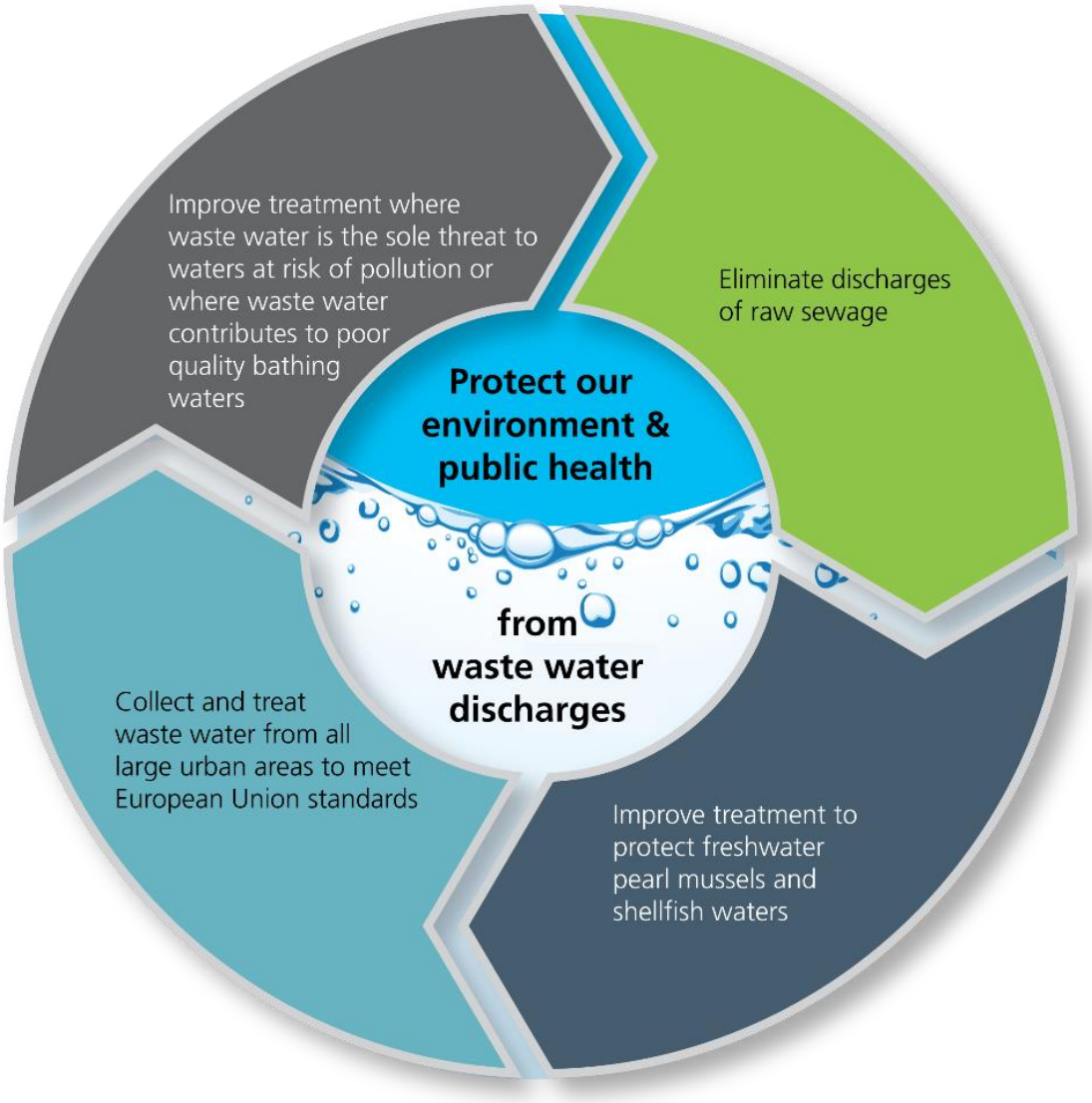

Figure 2: Environmental priorities

The EPA requires Irish Water to improve treatment at 120 urban areas, listed in *Appendix A*, to resolve the environmental priorities in Figure 2. In some cases, there is more than one environmental priority issue at a single urban area. For example, treatment at Tubbercurry in County Sligo did not meet European Union standards and waste water released from the town is also the sole threat to a local river at risk of pollution. There is a cumulative total of 140 environmental priority issues at the 120 urban areas (refer to Table 3 in the conclusions and recommendations section of this report).

The actions required to improve treatment are:

1. Upgrade deficient waste water treatment infrastructure. This requires increased investment and improved management to deliver the upgrade works in as timely and efficient a manner as possible.
2. Get the best performance from the existing treatment systems by continuing to improve how they are operated, managed and maintained.

2 Waste water treatment and effluent quality

Over a billion litres of waste water are collected every day in Ireland's public sewers and treated at 1,100 treatment plants before being released back into the environment. Table 1 shows that most of the waste water is conveyed to treatment plants that provide at least secondary treatment[1].

Table 1: Level of treatment provided for waste water collected in public sewers

No treatment	Primary treatment	Secondary treatment	Secondary treatment and nutrient removal
2%	1%	67%	30%
⇨	Effluent quality improves		⇨

2.1 Compliance with European Union standards

The European Union's *Urban Waste Water Treatment Directive* sets standards for treating urban waste water at large urban areas. The standards are set to protect the environment and people's health from the adverse effects of waste water discharges and the final deadline for Ireland to comply with the standards was 2005. In 2018 there were 169 large urban areas in Ireland. 148 (or 88%) of these large urban areas met the standards but the remaining 21 (or 12%) still failed to treat waste water to the required standards in 2018.

Figure 3 illustrates the gradual improvement in the percentage of large urban areas that met the treatment standards over the past three years. The map in Figure 4 shows these areas and you can find further information in *Appendix B* on the standards that each of these areas failed to meet.

[1] You can find more information on technical terms used in this report, such as a description of the different levels of waste water treatment and the definition of a large urban area, in the *Glossary and background information*.

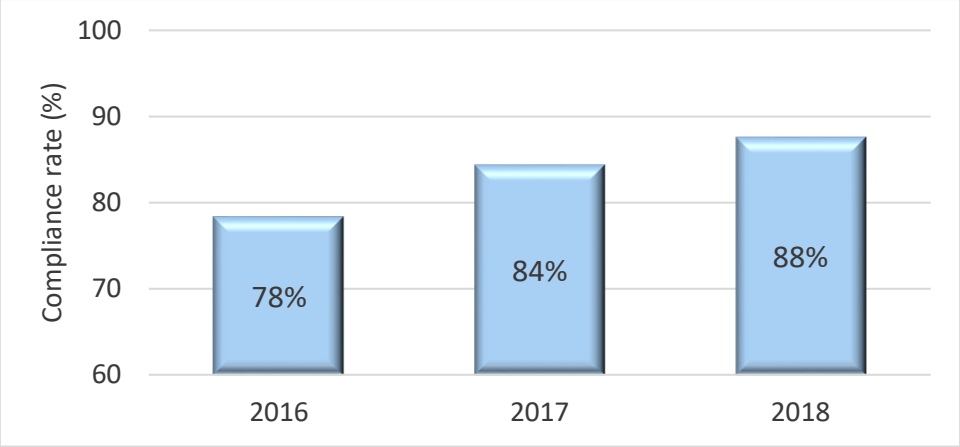

Figure 3: Percentage of large urban areas that met the European Union's treatment standards - 2016 to 2018.

The treatment systems serving the 169 large urban areas collect waste water from a population equivalent of almost 5 million[2]. However, over half (58%) of this is collected from the 21 towns and cities that did not meet the treatment standards. Consequently just 42% of waste water from Ireland's large urban areas was treated at plants that complied with the standards. The main factor in Ireland's low rate of compliance is the failure to properly treat waste water from the large population centres of Dublin and Cork.

What are the European Union treatment standards that apply to Ireland?

1. Waste water from all 169 large urban areas must undergo secondary treatment[3]. The treated waste water from these areas must also meet certain effluent quality standards used to assess polluting potential.
2. Waste water from 39 of the 169 large urban areas require an additional more stringent level of treatment to remove nutrients (nitrogen and/or phosphorus) and the concentration of nutrients in the treated waste water must be below specified limits. These additional standards apply at large towns and cities that release waste water into sensitive areas.

[2] This includes industries and businesses that discharge into public sewers, as well as domestic waste water from homes. The term 'population equivalent' is explained in the *Glossary and background information*.

[3] Smaller urban areas require 'appropriate treatment', as defined in the *Glossary and background information*.

What are the risks if waste water is not properly treated?

Untreated or poorly treated waste water can be contaminated with harmful bacteria and viruses and can pose a health risk to people who come into contact with infected water. It can damage aquatic ecosystems by decreasing the level of oxygen in the water and releasing nutrients that can lead to excessive and unwanted growth of algae and aquatic plants.

Why is Ireland failing to treat waste water properly?

The underlying problem in many cases is a lack of adequate treatment infrastructure, for example:

- The overloaded treatment plant at Ringsend in Dublin is not large enough to treat the waste water it receives to EPA and European Union standards. There is more information about Ringsend on page 11 of this report.
- Cobh, Arklow, Moville and Passage-Monkstown were not connected to treatment plants in 2018[4]. Consequently, raw sewage from these four large urban areas flowed into the environment throughout the year[5].
- Six towns and cities discharging into sensitive areas, including Cork, did not have the more stringent level of treatment required to remove phosphorous and/or nitrogen.
- Some towns are served by ageing treatment plants that were designed and built for a time when the population and volume of waste water needing treatment was smaller. For example, the plants at Shannon and Tubbercurry were built in the 1970s. These overloaded and outdated plants no longer have the capacity or long-term resilience to consistently treat waste water to the required standards.

Significant capital investment in new or upgraded treatment infrastructure is required to fix these problems.

However, not all the failures are due to a lack of treatment infrastructure. At some towns such as Dunmanway and Kinnegad the infrastructure is already in place, but in 2018 the

[4] Passage-Monkstown was connected to a treatment plant during 2019.

[5] This section of the report refers to large urban areas only. Section 2.2 covers all areas with no treatment, including the smaller towns and villages.

treatment equipment broke down occasionally or did not always perform as well as it should. Such problems can be solved without capital investment. Improving how the treatment plants are managed and maintained will minimise breakdowns, get the best from the plants and help ensure waste water at these areas is always properly treated.

The EPA has consistently highlighted the infrastructure and operational improvements needed to meet Ireland's obligation to treat waste water properly before releasing it into the environment. In March 2019 the Court of Justice of the European Union declared that Ireland has failed to fulfil its obligations under the Urban Waste Water Treatment Directive. Ireland risks substantial fines if it does not promptly complete the improvements needed to protect our environment from the adverse effects of waste water discharges. Investing now to fix the problems at areas with inadequate treatment will help protect our environment and public health and reduce the risk of financial penalties in the future.

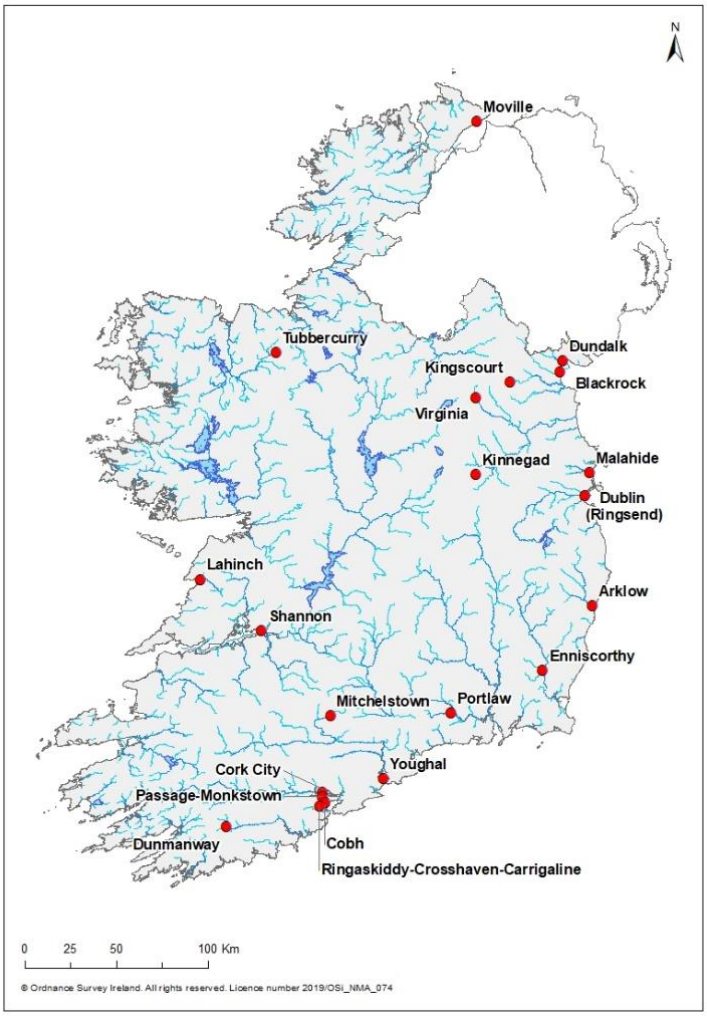

Figure 4: Large urban areas that failed to meet the European Union's treatment standards in 2018

Ringsend waste water treatment plant

Ringsend waste water treatment plant opened in 2003 with a capacity to cater for a population of 1.64 million. It now serves an average population equivalent to 1.9 million, which can increase up to 2.3 million during busy periods. The plant fails to meet EPA and European Union treatment standards because it is overloaded and is not large enough to consistently treat the waste water it receives to the required standards. Waste water released from the overloaded plant into the Lower Liffey Estuary will continue to breach the treatment standards until the plant is upgraded to provide additional treatment capacity.

The plant will be upgraded in two phases:

1. Construction work began in 2018 to extend the plant and provide additional treatment capacity for a population equivalent of 400,000. This new extension is due to be completed in 2020.
2. Further work to upgrade the current treatment process and bring the treatment capacity up to 2.4 million is due to begin in 2021. Irish Water recently revised the expected completion date for this work from 2023 to 2025.

The quality of the treated waste water will improve as the upgrade works proceed but is not expected to start meeting the required standards until the end of 2022 at the earliest. Completing this project without delay is essential to protect the Lower Liffey Estuary and Dublin Bay.

Ringsend waste water treatment plant

2.2 Untreated waste water

The previous section of this report only deals with the large urban areas, which produce 92% of Ireland's urban waste water. This section covers the EPA's review of all public waste water systems, including those serving the smaller towns and villages, to identify areas still discharging untreated waste water / raw sewage.

Raw sewage from the equivalent of 77,000 people in 36 towns and villages is still released into the environment every day. This is down from 38 last year. *Appendix C* and Figure 5 show these areas.

Irish Water provided treatment for Ringaskiddy village and Passage-Monkstown in the past year and has stopped discharges of untreated waste water from 14 areas since 2014.

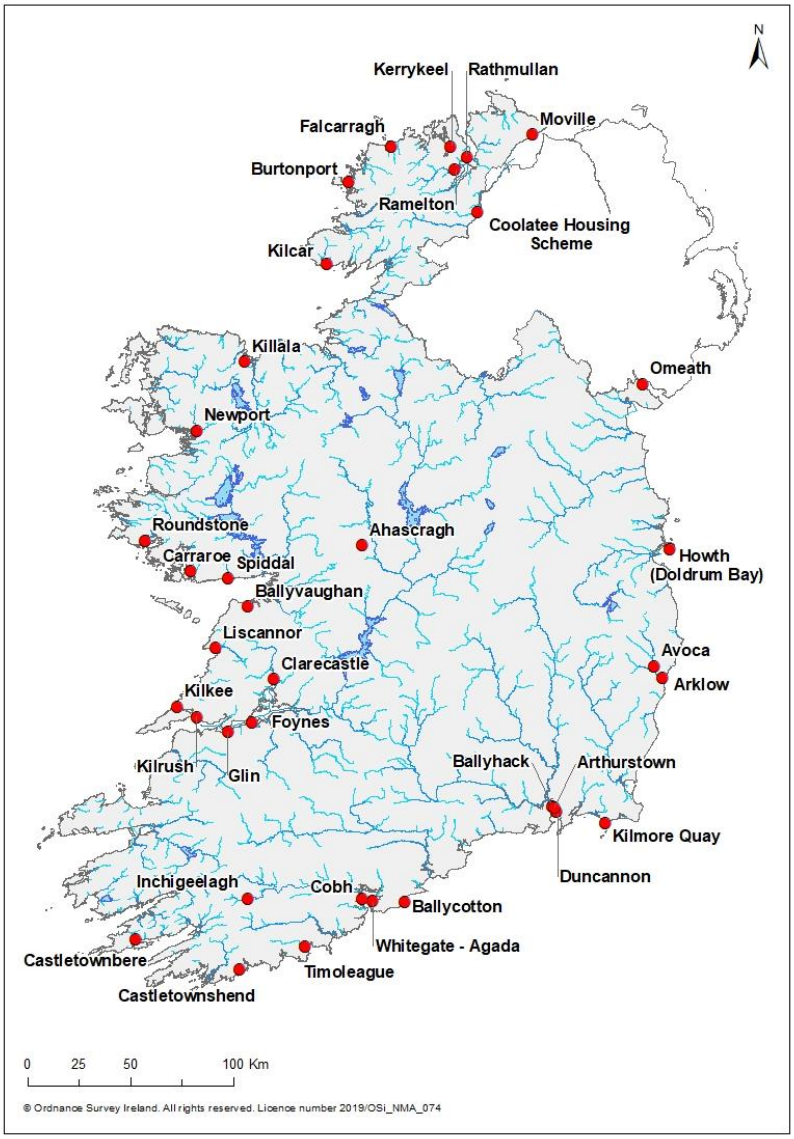

Figure 5: Areas discharging untreated waste water (raw sewage)

When will discharges of untreated waste water cease?

Irish Water plans to provide treatment for 23 areas between 2019 and 2021 and to connect the remaining 13 areas to treatment between 2022 and 2025[6]. The blue columns in Figure 6 show the number of areas to be connected to treatment plants each year.

Irish Water is repeatedly extending the dates it expects to complete the important works needed at areas that are still releasing untreated waste water; for example:

- In 2016 Irish Water reported that it would stop discharging untreated waste water from 30 of the 36 areas by the end of 2020. It is now only on target to provide treatment for two of these areas by the end of 2020.
- In 2018 Irish Water reported that it would connect 31 of the 36 areas to treatment between 2019 and 2021. It has now revised this down to 23 areas. Figure 6 compares Irish Water's current timeframe to eliminate discharges of untreated waste water (shown by the blue columns) with the timeframe it reported in 2018 (shown by the red columns).

Extending the time to eliminate discharges of untreated waste water prolongs the risks to the environment and public health. It is important to provide the outstanding infrastructure to end discharges of untreated waste water without any further delays.

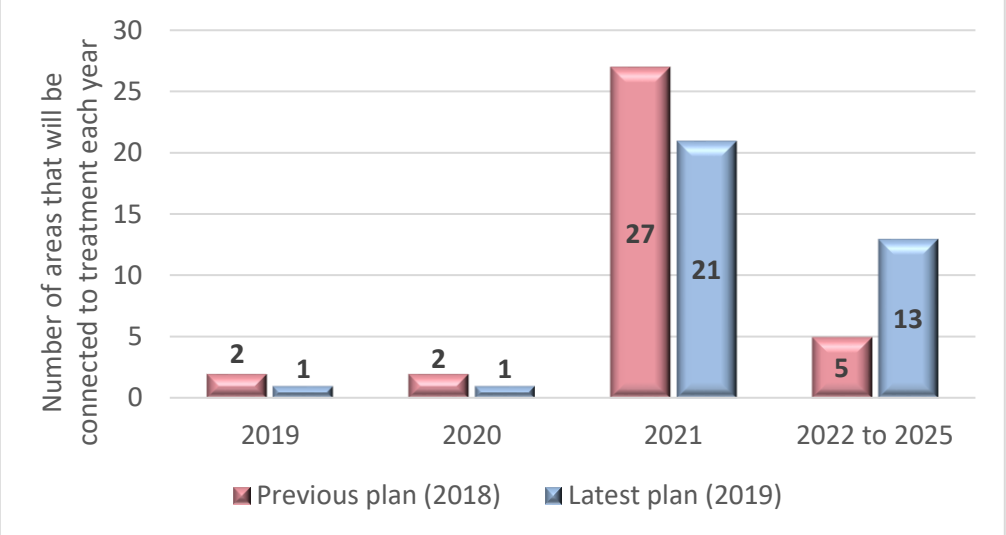

Figure 6: The number of areas to be connected to treatment plants each year

[6] Irish Water plans to connect seven areas in 2022, four in 2023, one in 2024 and one in 2025.

3 Risks to water quality

Waste water released into the environment must be properly treated to prevent pollution and protect the quality of inland and coastal waters. Clean waters support local communities, healthy ecosystems and a diverse range of plants and animals.

3.1 Inland and coastal waters

The EPA assessed Ireland's rivers, lakes, estuaries and coastal waters and identified the water bodies at risk of pollution. We then investigated the main threats, or pollution pressures, putting these water bodies at risk. Our investigation found that urban waste water is one of the most common pollution pressures, affecting one-fifth of the water bodies that are at risk. The pollution pressures from waste water can arise through inadequate treatment and through leaks, spills or overflows of untreated waste water from defective collection systems.

The EPA identified 57 priority areas, listed in *Appendix D*, where waste water is the sole significant pressure on waters at risk of pollution. Irish Water should complete any corrective actions necessary to improve waste water discharges from these areas and thereby help protect and enhance the quality of the receiving water bodies.

The corrective actions may include upgrading the collection and treatment systems, as well as improving the operation and management of these systems.

- Irish Water recently improved treatment to help protect local rivers at 14 of the 57 areas. The EPA is monitoring these rivers to determine if the improvements have resolved the risk of pollution by waste water discharges.
- In 2018 Irish Water had improvement works scheduled or ongoing at a further 21 of the 57 areas. It needs to confirm if these works will be enough to protect the waters at risk of pollution.
- The EPA requires Irish Water to identify and implement action plans to resolve the threat of pollution at the remaining 22 areas. Irish Water has known of the requirement for these plans since 2017 but has not yet identified the works needed at these areas.

Where can I find out more information about Ireland's waters?

The EPA catchments website[7] shares science and stories about Ireland's water catchments, and people's connections to their water. The website includes details on the condition of local rivers, lakes and beaches, and the environmental pressures which may be causing problems.

The River Basin Management Plan 2018 – 2021[8] outlines what Ireland is doing to protect and improve our waters. The plan includes 255 projects to improve waste water treatment in urban areas. 73 of these projects were completed prior to 2018 and a further 21 were completed during 2018.

3.2 Bathing waters

Waste water discharges contributed to poor quality bathing waters at three beaches in 2018, down from six the previous year. These are listed in *Appendix E*, along with a summary of the changes since 2017.

When a bathing water is classified as poor it means there is a risk of periodic pollution, with the potential to cause illness such as stomach upset, skin rash and infections of the eye, ear, nose and throat. While waste water adversely affects some bathing waters from time to time, the overall quality of Ireland's bathing water remains good, with 94% of our beaches meeting the basic water quality standards[9].

Where can I check bathing water quality?

During the bathing season the EPA Beaches website[10] shares the latest information on bathing water quality at over 200 beaches and provides details of any bathing water restrictions in place.

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[7] www.catchments.ie/.

[8] www.housing.gov.ie/water/water-quality/river-basin-management-plans/river-basin-management-plan-2018-2021.

[9] EPA report on Bathing Water Quality in 2018 which is available at: www.epa.ie/pubs/reports/water/bathing/Bathing%20Water%20Quality%20in%20Ireland%202018.pdf.

[10] www.beaches.ie/.

4 Protecting freshwater pearl mussels and shellfish

Waste water can harm freshwater pearl mussel and shellfish habitats if it is released into the catchments of these habitats without adequate treatment. The EPA reviews site specific assessments into the impacts of waste water discharges on freshwater pearl mussels and shellfish to identify where treatment needs to improve to protect these vulnerable species.

4.1 Freshwater pearl mussels

The EPA has identified 13 towns and villages where waste water treatment must improve to help protect freshwater pearl mussels. *Appendix F* lists these areas and provides some background information on freshwater pearl mussels.

Irish Water has improved treatment at four of these 13 areas. The EPA awaits the findings of ongoing monitoring to confirm if waste water discharges from the four areas have improved sufficiently to protect the freshwater pearl mussel habitats.

4.2 Shellfish

Waste water released into some coastal areas has the potential to contaminate shellfish such as oysters, mussels, cockles and clams. People may fall ill by eating contaminated shellfish, and this can lead to vomiting, nausea and diarrhoea.

It is sometimes necessary to disinfect waste water during the treatment process to protect designated shellfish waters and prevent shellfish contamination. Disinfection is usually carried out using ultraviolet (often referred to as 'UV') lamps, which kill or inactivate bacteria and viruses in the waste water.

The EPA requires Irish Water to provide the overdue waste water disinfection systems needed to protect shellfish waters at two urban areas, listed in *Appendix F*. This is unchanged from last year.

The EPA also requires Irish Water to complete its assessments of the impacts of discharges on 29 shellfish waters. We will analyse the findings of these assessments to identify where disinfection, or other improvements in treatment, are needed to protect shellfish waters.

You can find a summary of progress at assessing the impacts of waste water discharges on Ireland's designated shellfish waters in *Appendix F*.

5 Collection systems

Ireland's waste water collection systems include approximately 30,000 kilometres of public sewers and around 2,000 pumping stations. These carry waste water away from our homes and communities and convey it to over 1,100 treatment plants around the country. In many areas the sewers also collect rainwater runoff from roads and other impermeable surfaces.

Waste water in collection systems is untreated and if it leaks or spills out before it gets to a treatment plant it may cause pollution or put people's health at risk. This can happen if a sewer has inadequate capacity, if a pump breaks down, or if there are structural defects or blockages in the sewer. Sewers may also release waste water during rainfall events, through overflow outlets called storm water overflows.

Why do sewers have storm water overflows?

Storm water overflows are designed and built into collection systems to relieve sewers of excess flows that arise during unusually heavy rainfall. These overflow points act as emergency safety valves, and release excess flow from the sewer directly into local waters. In the absence of such releases there could be a higher risk to the environment and people's health because the treatment plant could be damaged, and homes and streets flooded by sewage[11]. These releases are usually diluted by significant rainwater, but they are typically untreated and have the potential to cause pollution. In order to limit pollution, storm water overflows must meet certain standards[12]; for example, they must not operate in dry weather or cause significant visual impact and public complaints.

Sewers should have enough capacity to collect and retain waste water during all normal local weather conditions and all normal seasonal variations in waste water load. In other words, storm water overflows should only trigger in extreme rainfall, and should not be used in normal conditions to compensate for a lack of sewer capacity.

[11] The Urban Waste Water Treatment Directive recognises it is not possible in practice to construct collecting systems and treatment plants in a way such that all waste water can be treated during situations such as unusually heavy rainfall.

[12] The standards are set out in the 'Procedures and criteria in relation to storm water overflows', which is on the EPA's website at: www.epa.ie/pubs/advice/wastewater/UrbanWasteWater2.pdf.

What are emergency overflows?

Pump stations often have overflow outlets called emergency overflows. These can release untreated waste water into local waters in emergency situations; for example, if a pump stops working due to a mechanical breakdown or electrical power failure. Irish Water advised the EPA of 55 occasions during 2018 when it released sewage through emergency overflows on its collection systems.

The EPA requires Irish Water to regularly service and maintain pump station equipment to minimise the risk of emergency overflows. Further measures to avoid overflows include reliable telemetry warning systems that trigger a rapid response in emergency situations; standby pumps that run automatically if duty pumps break down; and backup power supply and storage capacity for waste water during pump station failures.

Assessing the performance of collection systems

There is a considerable shortage of information on the condition and performance of many collection systems; for example, Irish Water does not have the information to determine how much untreated waste water escapes each year from collection systems or how many storm water overflows meet the required standards. It will take several years, and significant investment, to build up the necessary understanding of the condition of collection systems and to fix deficient systems to mitigate risks to the environment. Table 2 summarises some of the work Irish Water is carrying out to meet the EPA's requirements to improve information on collection systems.

Table 2: Progress on assessing the performance of collection systems

Task	Assessments completed at the end of 2018
Assess the performance of 959 storm water overflows by 2019.	273
Complete 44 detailed assessments of the collection systems serving large urban areas by 2021.	20

Priority waste water collection systems

In 2019 the Court of Justice of the European Union ruled that the collection systems at eight urban areas in Ireland were inadequate. When a system is inadequate it cannot retain all waste water and convey it for treatment. *Appendix G* lists these eight priority areas. Irish Water must complete any improvements needed at these areas to bring the collection systems up to the required standards and demonstrate they are fit for purpose.

6 Improving waste water treatment

6.1 Infrastructure

The licences that the EPA issues require Irish Water to carry out improvement works within specified timeframes, where these works are needed to help reduce environmental risks. The pace at which Irish Water is carrying out these improvements falls far short of EPA requirements. At the end of 2018 Irish Water had completed approximately half (52%) of the almost 800 improvements that should have been done between 2009 and 2018.

The improvements completed during 2018 include a new treatment plant at Belmullet, County Mayo to eliminate discharges of untreated sewage into Broadhaven Bay, and a major upgrade of Convoy waste water treatment plant in County Donegal to prevent pollution in the River Deele (Figure 7).

Figure 7: New waste water treatment plant in Convoy, County Donegal

6.2 Investment

Ireland requires substantial and sustained investment to build the infrastructure necessary to treat our waste water properly and release it safely back into the environment. Irish Water invested €230 million in waste water infrastructure in 2018, up from €215 million the previous year.

While this investment is bringing improvements, Irish Water is not investing at a fast-enough pace to address the deficiencies in its waste water treatment infrastructure. The average yearly investment over the period 2016 to 2018 was €206 million. This is well below Irish Water's plan to invest an average of €326 million each year on waste water infrastructure between 2016 and 2021. Where investment is available, it is essential that it is used efficiently and effectively in the right areas to bring improvements where they are most needed.

The Commission for Regulation of Utilities website[13] provides information on the economic regulation of Irish Water. This includes reports on Irish Water's progress in delivering its Investment Plans.

6.3 Operation and maintenance

It does not always require significant investment to improve waste water treatment. For example, 45 of the long term unresolved environmental incidents that were either ongoing or likely to recur at the end of 2018 can be fixed by simply improving how the existing treatment plants are run. Figure 8 shows the decrease in such incidents since 2016. This illustrates that by improving how it operates plants to make the best use of them, Irish Water can reduce releases of inadequately treated waste water into our environment.

You can find a summary of all environmental incidents in 2018 in *Appendix H*.

[13] www.cru.ie/.

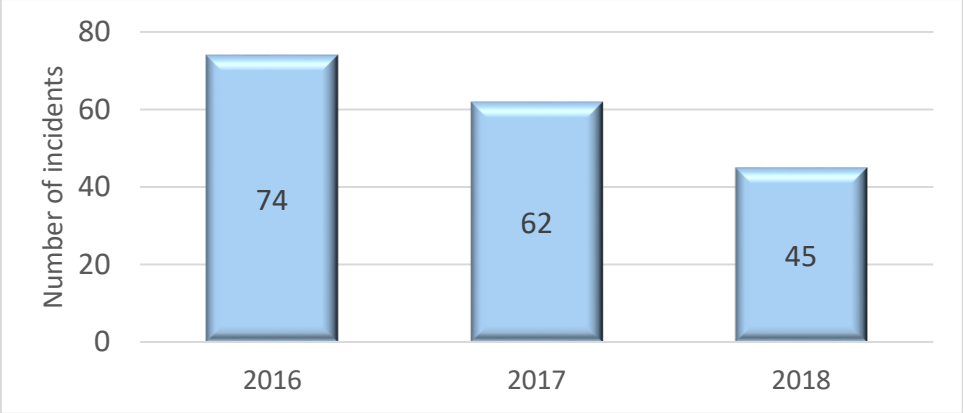


Figure 8: Number of incidents caused by operation and maintenance issues[14]

If a treatment plant is not operated properly it will not perform as well as it should. As an example, the new plant built in 2016 to stop discharges of raw sewage from St. Johnston, County Donegal did not always treat waste water to the necessary standards during 2018 because it was not operated correctly.

Good maintenance of plant and equipment is key to minimising breakdowns and keeping treatment systems in the best condition. Maintenance should take a preventative approach, for example by servicing equipment regularly, rather than just reacting to problems when they occur. When breakdowns occur, they must be responded to and fixed as soon as possible to minimise the risk to the environment.

Sewage sludge

Sewage sludge is a thick, soft mix of solid and liquid matter left over after waste water is treated. Sludge management, such as removing sludge from the treatment process at appropriate intervals, plays an important role in waste water treatment. Irish Water's treatment plants produced 55,226 tonnes of sewage sludge in 2018. Most of this was reused as a soil enhancer or fertiliser on agricultural land. You can find further information on the reuse and disposal of sludge in *Appendix I*.

[14] This shows the number of environmental incidents at the end of each year that were either ongoing or likely to recur and can be fixed by operating the treatment plant better.

7 Conclusions and recommendations

This report sets out the most important issues we face in protecting our environment from the harmful effects of waste water. The EPA has identified 120 urban areas where treatment must improve to resolve these national environmental priorities[15]. By targeting resources at these areas, Ireland will deliver improvements where they are most needed.

Table 3: Areas where improvements are most needed

Treatment and effluent quality
• Treatment at 21 large urban areas did not meet European Union standards.
Untreated waste water (raw sewage)
• Untreated waste water from the equivalent of 77,000 people in 36 towns and villages flows into the environment every day.
Risks to inland and coastal waters
• Waste water from 57 areas is the sole threat to waters at risk of pollution. • Waste water contributed to poor quality bathing waters at three beaches in 2018.
Protecting freshwater pearl mussels and shellfish
• Discharges from 13 areas must improve to protect freshwater pearl mussels. • Disinfection systems must be installed at two villages to safeguard shellfish.
Collection systems
• Eight waste water collection systems have been found non-compliant with European Union requirements.

The number of priority urban areas requiring improvements dropped from 132 to 120 in the past year. During this period Irish Water eliminated discharges of raw sewage from two

[15] There is more than one environmental priority issue at some urban areas. Consequently there is a cumulative total of 140 priority issues to be resolved at the 120 urban areas where treatment must improve.

areas and the percentage of large urban areas meeting the European Union's treatment standards rose from 84% to 88%.

However, the deficiencies in waste water treatment at priority areas are not being fixed at a fast-enough pace. There have been repeated delays in works needed to stop discharges of raw sewage from some towns and villages. Irish Water still has no plans in place to improve treatment at some of the areas where waste water is the sole significant threat to waters at risk of pollution.

The actions required to improve treatment are:

1. Upgrade deficient waste water treatment infrastructure. This requires increased investment and improved management to deliver the upgrade works in as timely and efficient a manner as possible.
2. Get the best performance from the existing treatment systems by continuing to improve how they are operated, managed and maintained.

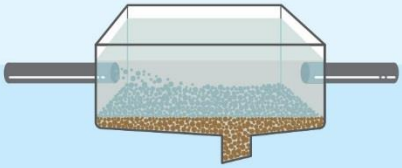
Reliable information is essential to identify environmental risks and plan improvements to mitigate these risks. Irish Water must address the significant shortages of information on the condition and performance of waste water collection systems to help identify future phases of improvement works.

Glossary and background information

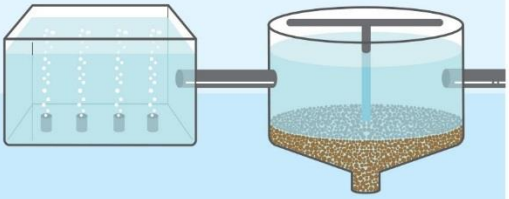
How is waste water treated?

Preliminary treatment. Waste water flows through screens and tanks that remove rags, large pieces of plastic, grit, fat and grease. This prepares the waste water for the next stages of treatment outlined below.

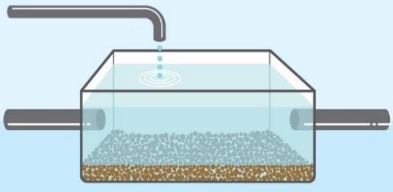
Primary treatment. The waste water enters large sedimentation tanks. Particles in suspension within the waste water sink down by gravity to the bottom of the tanks and are removed.



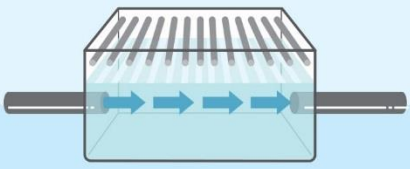
Secondary treatment. This is a biological process whereby microorganisms such as bacteria break down and remove the organic (polluting) matter. The clean water is then separated from the solid particles (referred to as 'sludge') in a final settlement tank. Secondary treatment is a higher level of treatment than primary treatment, and it significantly reduces the amount of polluting matter.



Nutrient removal. Additional treatment is sometimes carried out to further reduce nutrients such as nitrogen and phosphorus. This may be through biological processes whereby bacteria remove the nutrients, or by adding chemicals that cause the nutrients to precipitate out of the waste water.



Disinfection. This may be carried out after the other stages of treatment, to kill or inactivate any remaining bugs or viruses. Disinfection is typically achieved by irradiating the treated water with ultraviolet light.



Appropriate treatment	This means treatment of urban waste water by any process and/or disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and the relevant provisions of European Directives.
Directive	The Urban Waste Water Treatment Directive. The EPA assesses compliance with the Directive using the effluent monitoring results and information on the type of treatment, the size of the urban area and the type of water that the effluent discharges into. Irish Water provides this information to us and is responsible for ensuring it is true and accurate.
Effluent	The waste water released back into the environment from a waste water collection and treatment system.
Effluent quality standards	Irish Water must sample and monitor effluent regularly to check if it is properly treated and meets the necessary quality standards. Standards for secondary treatment. The Directive sets mandatory effluent quality standards for two parameters used to assess polluting potential, namely biochemical oxygen demand and chemical oxygen demand. These measure the amount of oxygen used up (demanded) to break down and get rid of polluting matter in the effluent. If effluent does not meet these quality standards it may lead to a drop in the oxygen levels in the receiving waters. This could harm aquatic life and biodiversity. Effluent discharged from all 169 large urban areas must meet these basic standards. Standards for more stringent treatment. Effluent discharged to sensitive areas requires a higher level of treatment to reduce the nutrients that could lead to pollution. Phosphorous and nitrogen are the main nutrients that drive pollution in sensitive areas. The Directive sets maximum limits on the concentration

	of phosphorus and nitrogen in effluent discharged to sensitive areas from urban centres with a population equivalent of at least 10,000. In 2018, a total of 39 towns and cities were subject to these standards.
Large urban area	Towns and cities with a population equivalent of at least 2,000 that discharge effluent to freshwater or estuaries, and areas with a population equivalent of at least 10,000 that discharge effluent to coastal waters. The population equivalent can change from year to year, for example a new industrial unit could lead to an increase in waste water within a town. Consequently, the number of areas that meet the size threshold for a large urban area can vary from year to year.
Population equivalent	This is a term used to indicate how much waste water is generated in an urban area. It includes the load generated by the resident population, the non-resident population (for example, tourists) and industries. A population equivalent of one is defined as the organic biodegradable load having a five-day biochemical oxygen demand of 60g of oxygen per day.
Sensitive area	A water body is a sensitive area if it is eutrophic; may become eutrophic if protective action is not taken; or is intended for abstraction of drinking water and contains more than 50 milligrams per litre of nitrates. Ireland's sensitive areas are listed in national legislation[16]. Eutrophic refers to the enrichment of waters by nutrients, leading to an accelerated growth of algae and aquatic plants. This can cause a decrease in oxygen levels in the water and a loss of sensitive aquatic species. Eutrophication is the most significant pollution issue for surface waters in Ireland. Phosphorus enrichment tends to drive eutrophication

[16] Statutory Instrument number 48 of 2010 at www.irishstatutebook.ie/eli/2010/si/48/made/en/print.

	in rivers and lakes, whereas nitrogen enrichment tends to drive eutrophication in coastal waters.
Shellfish waters	Shellfish waters are protected areas that are designated to support shellfish life and growth. They are identified in the following national legislation: Statutory Instrument (S.I.) 268 of 2006, S.I. 55 of 2009 and S.I. 464 of 2009.
Urban waste water	Domestic waste water, or the mixture of domestic waste water with industrial waste water and / or rainwater runoff. - Domestic waste water is waste water from residential settlements and services, which originate predominantly from human metabolism and from household activities. - Industrial waste water is the waste water discharged from premises used to carry on any trade or industry. Urban waste water is commonly referred to as 'sewage'.
Waste water discharge authorisation	A waste water discharge licence is required for discharges from areas with a population equivalent of 500 or more. A certificate of authorisation is required for discharges from areas with a population equivalent below 500. The EPA has issued over 1,070 waste water discharge authorisations. You can view all these authorisations, as well as annual environmental reports on the performance of each licenced site on the EPA's website[17].

[17] www.epa.ie/terminalfour/wwda/index.jsp.

Appendix A: Priority areas.

This section lists the 120 urban areas where improvements are needed to resolve our environmental priorities.

Co. Carlow (2)

Nurney
Tullow

Co. Cavan (5)

Baileborough
Blacklion
Kingscourt
Mullagh
Virginia

Co. Clare (8)

Ballyvaughan
Clarecastle
Kilkee
Kilmihil
Kilrush
Lahinch
Liscannor
Shannon

Co. Cork (25)

Ballycotton
Ballydesmond
Boherbue
Castletownbere
Castletownroche
Castletownshend
Cecilstown
Cobh
Cork City
Crookstown
Dunmanway
Fermoy
Inchigeelagh
Kanturk
Kealkill
Lombardstown
Mallow
Midleton
Millstreet
Mitchelstown
Passage-Monkstown
Ringaskiddy-Crosshaven-Carrigaline
Timoleague
Whitegate-Agada
Youghal

Co. Donegal (16)

Ballintra
Bridgend
Burnfoot
Burtonport
Carndonagh - Malin
Convoy
Coolatee
Falcarragh
Kerrykeel
Kilcar
Kilmacrennan
Milford
Moville
Ramelton
Rathmullan
Termon

Co. Dublin (2)

Ringsend
Malahide

Co. Galway (10)
Ahascragh
Athenry
Ballymoe
Carraroe
Clifden
Loughrea
Mountbellew
Roundstone
Spiddal
Woodford

Co. Kerry (4)
Abbeydorney
Castleisland
Kilgarvan
Tralee

Co. Kilkenny (3)
Freshford
Goresbridge
Johnstown

Co. Laois (3)
Ballyroan
Castletown
Portarlington

Co. Leitrim (1)
Mohill

Co. Limerick (4)
Foynes
Glin
Herbertstown
Hospital

Co. Louth (6)
Blackrock
Castlebellingham
Dundalk
Dunleer
Omeath
Tallanstown

Co. Mayo (2)
Killala
Newport

Co. Monaghan (2)
Carrickmacross
Castleblayney

Co. Offaly (2)
Kilcormac
Tullamore

Co. Roscommon (1)
Roscommon

Co. Sligo (3)
Collooney
Grange
Tubbercurry

Co. Tipperary (1)
Mullinahone

Co. Waterford (3)
Dungarvan
Kill
Portlaw

Co. Westmeath (5)
Athlone
Ballymore
Kinnegad
Multyfarnham
Tyrellspass

Co. Wexford (8)
Arthurstown
Ballycanew
Ballyhack
Clonroche
Coolgreany
Duncannon
Enniscorthy
Kilmore Quay

Co. Wicklow (4)
Arklow
Avoca
Kilcoole
Kilpedder

Appendix B: Urban Waste Water Treatment Directive non-compliance.

The table below shows the 21 large urban areas that failed to meet the European Union's legally binding standards for the treatment of urban waste water in 2018.

County	Urban area	Did not meet the secondary treatment requirements	Did not meet the more stringent treatment requirements
Cavan	Kingscourt	x	
	Virginia	x	
Clare	Lahinch	x	
	Shannon	x	
Cork	Cork		x
	Cobh	x	x
	Dunmanway	x	
	Mitchelstown	x	
	Passage - Monkstown	x	
	Ringaskiddy - Crosshaven - Carrigaline		x[Note 1]
	Youghal	x	
Donegal	Moville	x	
Dublin	Malahide		x[Note 1]
	Ringsend	x	x
Louth	Blackrock	x	
	Dundalk	x	
Sligo	Tubbercurry	x	
Waterford	Portlaw	x	
Westmeath	Kinnegad	x	
Wexford	Enniscorthy	x	x[Note 1]
Wicklow	Arklow	x	

Note 1. The treated waste water released from the treatment plant met the effluent quality standards. However, the Directive requires the waste water to undergo a

more stringent level of treatment than secondary treatment to remove nutrients and Irish Water reported that it did not have such treatment at Ringaskiddy-Crosshaven-Carrigaline, Malahide and Enniscorthy in 2018. This means that these areas did not meet all the Directive's requirements.

Appendix C: Areas discharging untreated waste water.

This section shows the 36 areas that continue to release untreated waste water (raw sewage) into the environment[18].

County	Urban area	Date for treatment[19]
Clare	Ballyvaughan	2021
	Clarecastle	2021
	Kilkee	2022
	Kilrush	2021
	Liscannor	2021
Cork	Ballycotton	2021
	Castletownbere	2021
	Castletownshend	2021
	Cobh	2021
	Inchigeelagh	2021
	Timoleague	2019
	Whitegate - Aghada	2021
Donegal	Burtonport	2021
	Coolatee Housing Scheme	2024
	Falcarragh	2021
	Kerrykeel	2021
	Kilcar	2021
	Moville	2022
	Ramelton	2022
	Rathmullan	2022
Dublin	Howth (Doldrum Bay)[20]	2021

[18] As at 1st October 2019.

[19] Dates provided by Irish Water in June 2019.

[20] This is a secondary discharge within the area covered by the Ringsend waste water discharge licence. It caters for a population of 127.

County	Urban area	Date for treatment
Galway	Ahascragh	2021
	Carraroe	2022
	Roundstone	2022
	Spiddal	2021
Limerick	Foynes	2023
	Glin	2023
Louth	Omeath	2021
Mayo	Killala	2020
	Newport	2023
Wexford	Arthurstown	2021
	Ballyhack	2021
	Duncannon	2021
	Kilmore Quay	2022
Wicklow	Arklow	2023
	Avoca	2025

Appendix D: Pressures on inland and coastal waters.

The table shows 57 areas where the EPA identified waste water discharges as the sole significant pressure on water bodies at risk of pollution.

County	Urban area	Water body name[21]
Carlow	Nurney	Ballynaboley Stream_010
	Tullow	Slaney_100
Cavan	Bailieborough	Blackwater (Kells)_020
	Blacklion	Macnean
	Mullagh	Mullagh Lough Stream_010
Clare	Kilmihil	Kilmihil Stream_010
Cork	Cork City	Lough Mahon
	Crookstown	Bride (Lee)_020
	Passage - Monkstown	Lough Mahon
Donegal	Ballintra	Ballintra 37_010
	Bridgend	Skeoge_010
	Burnfoot	Burnfoot_020
	Carndonagh - Malin	Donagh_030
	Convoy[22]	Deele (Donegal)_030
	Kilmacrennan	Leannan_050
	Milford	Fern, Maggy's Burn_010
	Termon	Leannan_050
Dublin	Malahide	Malahide Bay
	Ringsend	Liffey Estuary Lower, Liffey Estuary Upper, Tolka Estuary

[21] The number at the end of each river water body name indicates where the water body is located along the main river channel. For example, the water body at the source of the Barrow is named Barrow_010. The next water body downstream is named Barrow_020. The final water body before the river becomes transitional (also referred to as estuarine) is Barrow_240. Transitional, coastal and lake water bodies do not have a number at the end of the water body name.

[22] Irish Water has improved waste water treatment at this area. The EPA is monitoring the river to determine if the risk of pollution from waste water discharges has been satisfactorily resolved.

County	Urban area	Water body name
Galway	Athenry	Clarinbridge_030, Clarinbridge_040
	Ballymoe	Island_030
	Loughrea	Kilcolgan_020
	Mountbellew	Castlegar_020
	Woodford	Woodford (Galway)_020
Kerry	Abbeydorney	Brick_020
	Castleisland	Maine_020
	Tralee	Lee K Estuary
Kilkenny	Freshford[22]	Nuenna_020
	Goresbridge[22]	Barrow_220
	Johnstown[22]	Goul_030
Laois	Portarlington[22]	Barrow_080
Leitrim	Mohill	Rinn_010
Limerick	Herbertstown	Camoge_010
	Hospital	Mahore_020
Louth	Blackrock	Inner Dundalk Bay
	Castlebellingham[22]	Glyde_070
	Dundalk	Castletown Estuary, Inner Dundalk Bay
	Dunleer	White (Louth)_020
	Tallanstown[22]	Glyde_050
Monaghan	Carrickmacross	Proules_020
	Castleblayney	Muckno
Offaly	Kilcormac	Silver (Kilcormac)_030
	Tullamore[22]	Tullamore_040
Sligo	Collooney	Owenmore (Sligo)_080
	Grange	Grange (Sligo)_010
	Tubbercurry	Tubbercurry_010, Tubbercurry Stream_010
Tipperary	Mullinahone	Mullinahone Stream_010

County	Urban area	Water body name
Waterford	Dungarvan	Colligan Estuary
	Kill	Kilmurrin Cove Stream_010
Westmeath	Ballymore	Dungolman_030
	Multyfarnham[22]	Gaine_020
	Tyrellspass[22]	Brosna_050
Wexford	Ballycanew	Owenavorragh_050, Owenavorragh_060
	Clonroche[22]	Boro_040
	Coolgreany[22]	Clonough_010
Wicklow	Kilcoole[22]	Kilcoole Stream_010, Newtownmountkennedy_020
	Kilpedder[22]	Kilcoole Stream_010

What do we mean by 'at risk of pollution'?

The European Union's *Water Framework Directive* is a key piece of legislation aimed at protecting and enhancing waters across Europe. The Directive requires Ireland to protect and enhance our inland and coastal waters to meet the following environmental objectives:

- achieve at least good status; and
- prevent any deterioration in existing status.

Water bodies that are of good status support healthy ecosystems and a diverse range of plants and animals. When we refer to water bodies 'at risk of pollution' in this report, we mean they are at risk of not meeting their environmental objectives.

Appendix E: Impacts on bathing water.

The table below shows where waste water discharges contributed to poor quality bathing waters in 2018.

County	Urban area	Bathing Water
Dublin	Dublin City (Ringsend collection system)	Merrion Strand
		Sandymount Strand
Galway	Clifden	Clifden Beach

Threats to bathing water quality at these areas include intermittent releases of untreated waste water, for example through storm water overflows or sewer misconnections, rather than problems with the treated effluent from the treatment plants.

Irish Water recently improved the waste water collection system at Clifden to help minimise discharges of untreated waste water. The findings of an ongoing assessment of the waste water collection system in Dublin will assist in identifying any improvements needed to ensure waste water does not impact the bathing waters at Merrion and Sandymount.

Water quality improvements since 2017

Water quality improved at three of the bathing waters that were classified as poor status in 2017.

- Water quality at Rush South and Ballyloughane improved following upgrades of the waste water infrastructure at Rush and Galway City.
- Water quality at Loughshinny beach improved in 2018, however the EPA still requires Irish Water to cease discharging waste water from a nearby overloaded treatment plant to help protect the bathing waters.

Appendix F: Protecting freshwater pearl mussels and shellfish.

Freshwater pearl mussels

The freshwater pearl mussel is a critically endangered mollusc that requires clean, fast flowing, well oxygenated rivers with little nutrient or organic content and a clean river bed. Freshwater pearl mussels are declining, both nationally and internationally, due to deteriorating river quality. This has resulted in the failure to produce new generations of mussels.

The table below shows the 13 areas where waste water treatment must improve to protect freshwater pearl mussels, or where the EPA awaits confirmation that recent improvement works are successful.

County	Urban area
Cork	Ballydesmond
	Boherbue
	Castletownroche[23]
	Cecilstown[23]
	Inchigeelagh
	Kanturk
	Kealkill[23]
	Lombardstown
	Mallow
	Millstreet
Kerry	Kilgarvan[23]
Laois	Ballyroan
	Castletown

[23] Monitoring at these areas is ongoing to help determine if recent improvement works are sufficient to protect freshwater pearl mussel habitats from the adverse effects of waste water discharges.

Shellfish

The table below shows the areas where the EPA requires Irish Water to provide waste water disinfection to protect shellfish waters.

County	Urban area
Donegal	Rathmullan
Mayo	Killala

Assessments of the impacts of waste water discharges on shellfish waters

Ireland has designated 64 areas as shellfish waters.

- Impact assessments found no adverse impact from waste water on 14 shellfish waters.
- Irish Water must complete assessments for 29 shellfish waters.
- Impact assessments are not required for the remaining 21 shellfish waters[24].

When Irish Water completes the outstanding assessments, the EPA will analyse the findings to identify where treatment needs to improve to protect designated shellfish waters.

[24] The EPA may not require an assessment if, for example, there are no waste water discharges near the shellfish waters, or if we have already set out the improvements necessary to protect shellfish in a waste water discharge authorisation.

Appendix G: Priority collection systems.

The Court of Justice of the European Union ruled that the collection systems at the following eight areas were inadequate because they did not ensure that the collected waters were retained and conducted for treatment.

County	Urban Area
Cork	Cork City
	Fermoy
	Mallow
	Midleton
	Ringaskiddy
Roscommon	Roscommon
Westmeath	Athlone
Wexford	Enniscorthy

Irish Water has built a new collection system at Ringaskiddy. However, it has not yet demonstrated that the system is satisfactorily collecting and retaining waste water and conveying it for treatment under all normal local weather conditions and all normal seasonal variations of waste water volume.

Appendix H: Environmental incidents.

An incident is:

- any discharge that does not comply with the requirements of a waste water discharge licence; or
- any occurrence at a waste water works with the potential for environmental contamination or requiring an emergency response.

The most common incident is the release of waste water into the environment without adequate treatment.

At the end of 2018 there were 244 incidents that were either ongoing or were likely to recur until the underlying cause of the incident is resolved. These are referred to as 'recurring incidents'. The number of recurring incidents at the end of 2016 and 2017 was 269 and 236 respectively.

Figure 9 illustrates that most recurring incidents (66%) are caused by a lack of treatment capacity. These are medium to long term problems, which are unlikely to be solved until Irish Water upgrades the treatment plant.

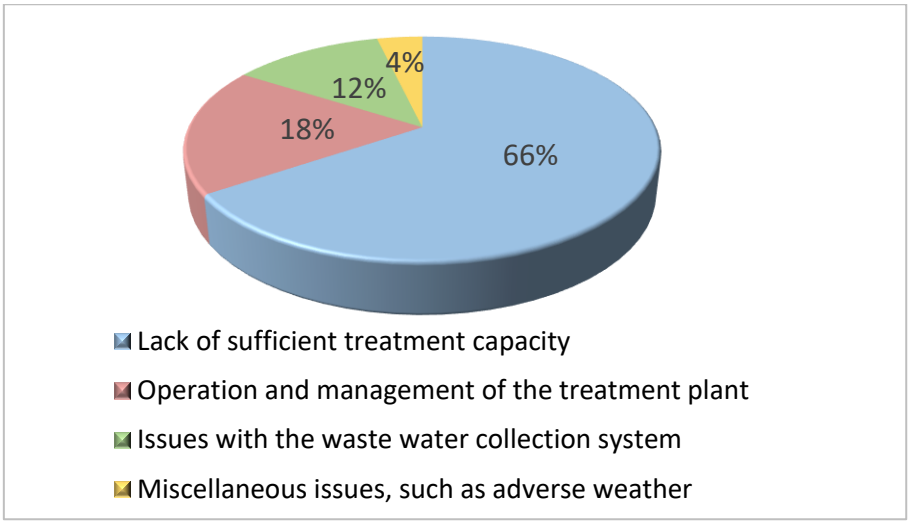


Figure 9: Causes of recurring incidents in 2018

Almost one fifth (18%) of recurring incidents can be fixed by improving operation and management practices at treatment plants. These improvements can be achieved in a shorter timeframe, without the need for capital investment.

There were also approximately 850 short duration or one-off incidents during 2018. Over half of these (52%) were caused by problems with the operation, management and maintenance of treatment plants.

Three serious incidents at Cavan, Tullamore and Dublin resulted in fish kills in the Cavan, Tullamore and Tolka rivers respectively. In each case raw sewage escaped from the collection system and flowed into the river. Irish Water took corrective action to repair or unblock the collection systems and quickly stop these discharges. You can find more information about these incidents on the EPA's website[25].

[25] www.epa.ie/newsandevents/incidents/recent/.

Appendix I: Sewage sludge.

The table below shows the amount of sewage sludge produced in 2018, and the re-use or disposal routes for this sludge.

Sludge is rich in nutrients and most of it was used as a soil enhancer or fertiliser on agricultural land. When used in this manner, it must be spread in a way that ensures the nutrients are effectively used for plant growth or assimilated into the soil.

Sewage sludge reuse and disposal routes in 2018

	Agriculture	Compost	Landfill	Other	Total
Tonnes dry solids	44,003	10,605	91	527	**55,226**

All sludge sent for composting was subsequently reused in soil/agriculture.

The category 'Other' refers to treated sludge that was in storage at the end of 2018 awaiting reuse on soil/agricultural land.

AN GHNÍOMHAIREACHT UM CHAOMHNÚ COMHSHAOIL
Tá an Ghníomhaireacht um Chaomhnú Comhshaoil (GCC) freagrach as an gcomhshaol a chaomhnú agus a fheabhsú mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaol a chosaint ó éifeachtaí díobhálacha na radaíochta agus an truaillithe.

Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialú: *Déanaimid córais éifeachtacha rialaithe agus comhlíonta comhshaoil a chur i bhfeidhm chun torthaí maithe comhshaoil a sholáthar agus chun díriú orthu siúd nach gcloíonn leis na córais sin.*

Eolas: *Soláthraímid sonraí, faisnéis agus measúnú comhshaoil atá ar ardchaighdeán, spriocdhírithe agus tráthúil chun bonn eolais a chur faoin gcinnteoireacht ar gach leibhéal.*

Tacaíocht: *Bímid ag saothrú i gcomhar le grúpaí eile chun tacú le comhshaol atá glan, táirgiúil agus cosanta go maith, agus le hiompar a chuirfidh le comhshaol inbhuanaithe.*

Ár bhFreagrachtaí

Ceadúnú
Déanaimid na gníomhaíochtaí seo a leanas a rialú ionas nach ndéanann siad dochar do shláinte an phobail ná don chomhshaol:
- saoráidí dramhaíola *(m.sh. láithreáin líonta talún, loisceoirí, stáisiúin aistrithe dramhaíola)*;
- gníomhaíochtaí tionsclaíocha ar scála mór *(m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta)*;
- an diantalmhaíocht *(m.sh. muca, éanlaith)*;
- úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe *(OGM)*;
- foinsí radaíochta ianúcháin *(m.sh. trealamh x-gha agus radaiteiripe, foinsí tionsclaíocha)*;
- áiseanna móra stórála peitril;
- scardadh dramhuisce;
- gníomhaíochtaí dumpála ar farraige.

Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil
- Clár náisiúnta iniúchtaí agus cigireachtaí a dhéanamh gach bliain ar shaoráidí a bhfuil ceadúnas ón nGníomhaireacht acu.
- Maoirseacht a dhéanamh ar fhreagrachtaí cosanta comhshaoil na n-údarás áitiúil.
- Caighdeán an uisce óil, arna sholáthar ag soláthraithe uisce phoiblí, a mhaoirsiú.
- Obair le húdaráis áitiúla agus le gníomhaireachtaí eile chun dul i ngleic le coireanna comhshaoil trí chomhordú a dhéanamh ar líonra forfheidhmiúcháin náisiúnta, trí dhíriú ar chiontóirí, agus trí mhaoirsiú a dhéanamh ar leasúchán.
- Cur i bhfeidhm rialachán ar nós na Rialachán um Dhramhthrealamh Leictreach agus Leictreonach (DTLL), um Shrian ar Shubstaintí Guaiseacha agus na Rialachán um rialú ar shubstaintí a ídíonn an ciseal ózóin.
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaol.

Bainistíocht Uisce
- Monatóireacht agus tuairisciú a dhéanamh ar cháilíocht aibhneacha, lochanna, uiscí idirchriosacha agus cósta na hÉireann, agus screamhuiscí; leibhéil uisce agus sruthanna aibhneacha a thomhas.
- Comhordú náisiúnta agus maoirsiú a dhéanamh ar an gCreat-Treoir Uisce.
- Monatóireacht agus tuairisciú a dhéanamh ar Cháilíocht an Uisce Snámha.

Monatóireacht, Anailís agus Tuairisciú ar an gComhshaol
- Monatóireacht a dhéanamh ar cháilíocht an aeir agus Treoir an AE maidir le hAer Glan don Eoraip (CAFÉ) a chur chun feidhme.
- Tuairisciú neamhspleách le cabhrú le cinnteoireacht an rialtais náisiúnta agus na n-údarás áitiúil *(m.sh. tuairisciú tréimhsiúil ar staid Chomhshaol na hÉireann agus Tuarascálacha ar Tháscairí)*.

Rialú Astaíochtaí na nGás Ceaptha Teasa in Éirinn
- Fardail agus réamh-mheastacháin na hÉireann maidir le gáis cheaptha teasa a ullmhú.
- An Treoir maidir le Trádáil Astaíochtaí a chur chun feidhme i gcomhair breis agus 100 de na táirgeoirí dé-ocsaíde carbóin is mó in Éirinn.

Taighde agus Forbairt Comhshaoil
- Taighde comhshaoil a chistiú chun brúnna a shainaithint, bonn eolais a chur faoi bheartais, agus réitigh a sholáthar i réimsí na haeráide, an uisce agus na hinbhuanaitheachta.

Measúnacht Straitéiseach Timpeallachta
- Measúnacht a dhéanamh ar thionchar pleananna agus clár beartaithe ar an gcomhshaol in Éirinn *(m.sh. mórphleananna forbartha)*.

Cosaint Raideolaíoch
- Monatóireacht a dhéanamh ar leibhéil radaíochta, measúnacht a dhéanamh ar nochtadh mhuintir na hÉireann don radaíocht ianúcháin.
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha.
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta.
- Sainseirbhísí cosanta ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

Treoir, Faisnéis Inrochtana agus Oideachas
- Comhairle agus treoir a chur ar fáil d'earnáil na tionsclaíochta agus don phobal maidir le hábhair a bhaineann le caomhnú an chomhshaoil agus leis an gcosaint raideolaíoch.
- Faisnéis thráthúil ar an gcomhshaol ar a bhfuil fáil éasca a chur ar fáil chun rannpháirtíocht an phobail a spreagadh sa chinnteoireacht i ndáil leis an gcomhshaol *(m.sh. Timpeall an Tí, léarscáileanna radóin)*.
- Comhairle a chur ar fáil don Rialtas maidir le hábhair a bhaineann leis an tsábháilteacht raideolaíoch agus le cúrsaí práinnfhreagartha.
- Plean Náisiúnta Bainistíochta Dramhaíola Guaisí a fhorbairt chun dramhaíl ghuaiseach a chosc agus a bhainistiú.

Múscailt Feasachta agus Athrú Iompraíochta
- Feasacht chomhshaoil níos fearr a ghiniúint agus dul i bhfeidhm ar athrú iompraíochta dearfach trí thacú le gnóthais, le pobail agus le teaghlaigh a bheith níos éifeachtúla ar acmhainní.
- Tástáil le haghaidh radóin a chur chun cinn i dtithe agus in ionaid oibre, agus gníomhartha leasúcháin a spreagadh nuair is gá.

Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil
Tá an ghníomhaíocht á bainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóirí. Déantar an obair ar fud cúig cinn d'Oifigí:
- An Oifig um Inmharthanacht Comhshaoil
- An Oifig Forfheidhmithe i leith cúrsaí Comhshaoil
- An Oifig um Fianaise is Measúnú
- Oifig um Chosaint Radaíochta agus Monatóireachta Comhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag comhaltaí air agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

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